

CLAIMS

What is claimed is:

1. An operating system for a hydraulic valve clearance control element (4) of an internal combustion engine having a hydraulic fluid with a pressure that depends on the engine operating state, particularly in electro-magnetically operated valves, said hydraulic valve clearance control element (4) comprising a cylinder part (101) and a piston part (102) defining a pressure chamber (120) having a hydraulic fluid supply opening and a hydraulic fluid drain, said piston part (102) being movable relative to said cylinder part (101) with changing volume of said pressure chamber (120) between opposite end positions, said pressure chamber (120) being in communication with a pressurized hydraulic fluid source (5) by way of said hydraulic fluid supply opening, a one way valve (104) disposed in said hydraulic fluid supply opening which is closed when the hydraulic fluid pressure of said hydraulic fluid source is below the hydraulic pressure in said pressure chamber (120), a blocking valve (105) arranged upstream of said one way valve (104) said blocking valve (105) being open only when the pressure of the fluid supply for said valve clearance control element is above a predetermined value, a hydraulic fluid drain including a passage (121) for returning leakage fluid from said pressure chamber to said fluid supply when said blocking valve (105) is open, and means arranged in the communication line (6) between said hydraulic fluid source and said valve clearance control element (4) for releasing hydraulic fluid from said

communication line (6) so as to reduce its pressure and cause said blocking valve (105) to be closed.

2. An operating system according to claim 1, wherein said blocking valve (105) is open when the pressure of said hydraulic fluid source (5) is above a predetermined value but is closed when said hydraulic fluid source pressure is below said predetermined value, and said valve means (8) arranged in said communication line (6) between said hydraulic fluid source and said hydraulic valve clearance control element (4) for releasing hydraulic fluid is a pressure release valve (8) arranged upstream of said blocking valve (105) by which the hydraulic pressure effective on the blocking valve (105) can be reduced to a value at which the blocking valve (105) is closed immediately upon shut down of the engine.

3. An operating system according to claim 1, wherein the hydraulic fluid operating the hydraulic valve clearance control element is lubricating oil of the engine lubricating oil circuit.

4. An operating system according to claim 2, wherein the pressure release valve (8) is open during engine shut down.

5. An operating system according to claim 2, wherein the pressure release valve (8) is open upon occurrence of a disturbance or defect in the valve drive.

6. An operating system according to claim 2, wherein said system includes a valve control unit (3) and said pressure release valve is opened by a signal supplied by said valve control unit (3).